

## Genus *Dichomeris* in Korea, with Descriptions of Seven New Species (Lepidoptera, Gelechiidae)

Kyu-Tek PARK

Center for Insect Systematics, Kangwon National University, Chuncheon, 200-701 Korea

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**Abstract** Eighteen species of *Dichomeris* from Korea are revised with morphological descriptions, distributional range, and general data on biology, seven of which are new and three are reported for the first time from Korea. Newly described species are *lespedezae* Park, *mitteri* Park, *strictella* Park, *polystigma* Park, *fareasta* Park, *cuspidata* Park, and *minutia* Park; and newly reported species are *quercicola* Meyrick, *horoglypta* Meyrick, and *litoxylla* Meyrick. A lectotype of *D. harmonias* Meyrick is designated, based on a male of the types in MNHN. A key for all species is given, with illustrations of male and female genitalia for the new and little known species.

**Key words** Systematics, Lepidoptera, Gelechiidae, *Dichomeris*, Korea

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### INTRODUCTION

Genus *Dichomeris* Hübner is widely distributed with several hundred species throughout the world. It is one of the most poorly known groups of Gelechiidae in Korea, with only six species of the genus *Ustalella* (Fabricius), *oceanis* Meyrick, *harmonias* Meyrick, *tostella* Stringer, *coreana* Matsumura, and *sparsella* Christoph, previously known as members of the genus *Dichomeris*. Two other known species belonging to the related genera, *Carbatina picrocarpa* Meyrick and *Uliaria rasilella* (Herrich-Schäffer) were transferred to *Dichomeris* by Hodges (1986). The species *coreana* Matsumura is proposed as a junior synonym of the European species, *fasciella* Hübner. A type (male) of *D. harmonias* Meyrick in MNHN is examined and designated it as lectotype.

All the material examined for this study is maintained in the collection of the Center for Insect Systematics (CIS), Kangwon National University, Korea. All new species proposed in this study were compared to related species in the Natural History Museum, London, U.K. (during my visit in May 1992), and in the National Museum of Natural History, Washington D.C., U.S.A. (during my recent visit in Jan.-Dec. 1994). The type series of some new species described herein include Japanese material of the Issiki's collection (1920'-1950') preserved in the USNM. All the holotypes are preserved in the CIS, Korea and some paratypes are in the USNM, USA. Morphological terms used in the description of male and female genital organs are based mostly on Heinrich (1920), Klots (1956) and Hodges (1986).

Genus *Dichomeris* Hübner, 1818  
(for extensive synonymy, see Hodges, 1986)

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Key to species of *Dichomeris* based on external characters

1. Second segment of labial palpus with well-developed triangular or trapezoidal scaletufts ... 2  
 Second segment of labial palpus thickened, with appressed scales ventrally and a slight scaletuft dorsally ..... 15
2. Ocellus present, forewing length 9.0 mm or more ..... 3  
 Ocellus absent, forewing length 8.0 mm or less ..... 11
3. A pair of long hairpencils arising from anepisternum of mesothorax present in male ..... 4  
 Such hairpencils lack in male ..... 8
4. Forewing extremely elongate, apex sharply pointed ..... 5  
 Forewing moderate, apex not sharply pointed ..... 6
5. Hindwing dark-brown; forewing reddish brown ..... *ustallela*  
 Hindwing pale gray; forewing pale grayish orange ..... *strictella*
6. Forewing without distinct patch on cell ..... *tostella*  
 Forewing with well-developed dark-brown patch ..... 7
7. Forewing with dark-brown fascia along termen ..... *oceanis*  
 Forewing without fascia along termen ..... *fasciella*
8. Hindwing with cubital pecten ..... *litoxyla*  
 Hindwing without cubital pecten ..... 9
9. Forewing ground color with pale orange, with four distinct black spots in cell ... *polystigma*  
 Forewing ground color with grayish brown, without distinct spots in cell ..... 10
10. Forewing without median and postmedian line; numerous small dark-spots scattered throughout ..... *fareasta*  
 Forewing with median and postmedian line; without dark-spots like above ..... *sparsella*
11. Forewing length usually less than 7.0 mm, elongate; male hairpencil arising from anepisternum on mesothorax ..... 12  
 Forewing length usually longer than 7.0 mm, male with hairpencils arising from anepisternum on mesothorax ..... 13
12. Forewing with fuscous fascia along posterior margin ..... *horoglypta*  
 Forewing without fuscous fascia along posterior margin ..... *mitteri*
13. Forewing with several distinct black spots in cell; postmedian fascia weakly presented or absent ..... *quercicola*  
 Forewing without distinct black spots in cell; postmedian fascia well developed ..... 14
14. Outer margin of postmedian fascia in forewing incurved; CuA<sub>1</sub> and CuA<sub>2</sub> with a long stalk ..... *lespedezae*  
 Outer margin of postmedian fascia in forewing convex; CuA<sub>1</sub> and CuA<sub>2</sub> short stalked ..... *harmonias*
15. Forewing with blue-lead metallic color ..... *cuspis*  
 Forewing without blue-lead metallic color ..... 16
16. Forewing length 4.5 mm or less, lacking distinct fascia ..... *minutia*  
 Forewing length 7.5 mm or more, with dark-fuscous or dark-brown fascia along termen ... 15
17. Forewing with vein R<sub>5</sub> absent ..... *rasilella*  
 Forewing with vein R<sub>4</sub> and R<sub>5</sub> stalked ..... *picrocarpa*

## Key to species based on male genitalia

1. Sicae absent or single lobed ..... 2  
 Sicae well-developed, multilobed ..... 3

2. Sicae absent ..... *minutia*  
Sicae with a single lobe ..... *cusps*
3. Aedeagus ankylosed with sicae, with a heavily sclerotized lobe between sicae and aedeagus ... 4  
Aedeagus free, without lobe between sicae and aedeagus ..... 5
4. Ventral free lobes arising from near base of valva stout, about 3/4 length of tegumen; aedeagus with strong cornutus ..... *sparsella*  
Ventral free lobes rather short, less than 1/2 length of tegumen; aedeagus without cornutus ..... *fareasta*
5. Lobes of sicae arising separately each other at base ..... *picrocarpa*  
Lobes of sicae arising from a common base ..... 6
6. Gnathos long, more 1/2 length of valva; sicae usually symmetrical, with slender lobes; saccal region without break; aedeagus simple, without lateral lobes ..... 7  
Gnathos short, less 1/2 length of valva; sicae symmetrical or asymmetrical, with stout lobes; saccal region with strong break; aedeagus with variable lateral lobes ..... 8
7. Valva not reaching apex of uncus; aedeagus lacks cornutus ..... *mitteri*  
Valva exceeding apex of uncus; aedeagus with strong cornutus ..... *horoglypta*
8. Sicae relatively weak, short, about 1/3 length of vinculum ..... *rasilella*  
Sicae relatively strong, always longer than 1/2 length of vinculum ..... 9
9. Vinculum bifurcate with strong projections basally ..... 10  
Vinculum simply narrowed at base, with lateral lobes or only an expansion basally or medially ..... 11
10. Sicae about equal length of vinculum, apex of lobes dentate; aedeagus without cornutus ..... *harmonias*  
Sicae shorter than length of vinculum, with acute apex; aedeagus with a strong cornutus ..... *litoxylla*
11. Vinculum with well-developed lateral lobes; sicae symmetrical or asymmetrical ..... 12  
Vinculum without lateral lobes, often with an expansion medially or basally; sicae always asymmetrical ..... 14
12. Sicae symmetrical, very stout ..... *oceanis*  
Sicae asymmetrical, relatively slender ..... 13
13. Lateral lobes of vinculum digitate; saccal region with strong break ..... *ustalella*  
Lateral lobes of vinculum sharply pointed; saccal region rather solid ..... *strictella*
14. Aedeagus relatively slender, with a slender lateral lobe, without cornutus ..... 15  
Aedeagus very stout, with multiple lateral lobes, with strong cornutus ..... 16
15. Sicae slightly asymmetrical, about 3/4 length of vinculum, apex with pointed process and smaller one before apex ..... *lespedezae*  
Sicae almost symmetrical, sickle-shaped, about 2/3 length of vinculum, without denticulation ..... *quercicola*
16. Lobes of sicae exceeding well beyond base of vinculum, heavily dentate on lateral margin; strong break in saccal region ..... *tostella*  
Lobes of sicae attaining base of vinculum, weakly dentate on ventrolateral margin; without break in saccal region ..... *fasciella*

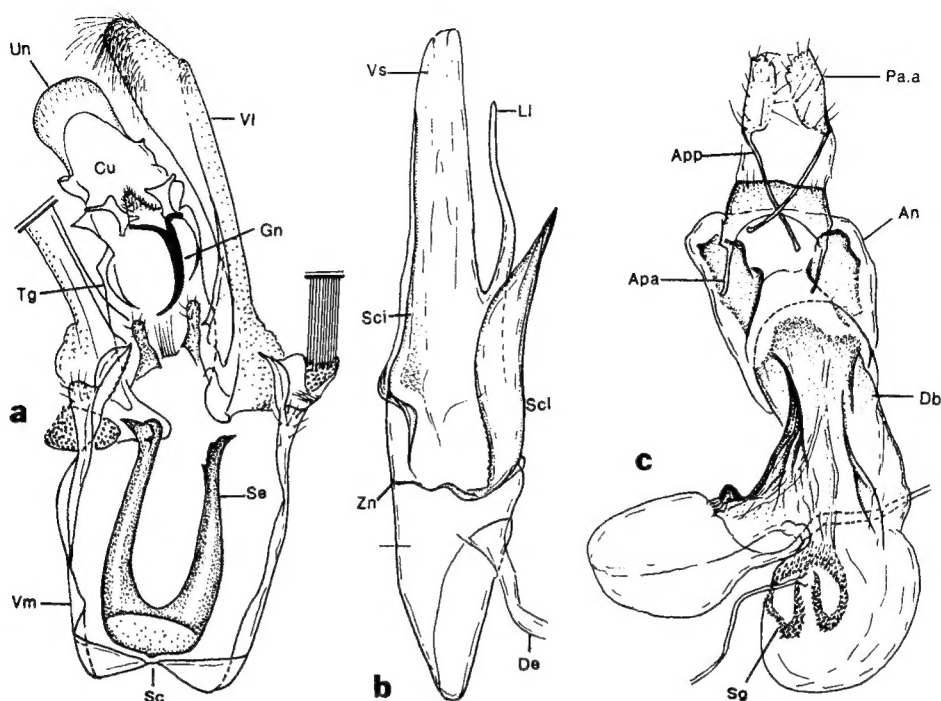
## Key to species based on female genitalia

1. Ductus seminalis with a secondary bursa, densely spicules on inner wall ..... 2  
Ductus seminalis with a simple membranous bursa ..... 7

2. Signum well developed, forming a pair of plates ..... 3  
    Signum absent or weakly developed ..... 5
3. Ductus seminalis arising from posterior part of corpus bursae ..... *oceanis*  
    Ductus seminalis arising from anterior part of corpus bursae ..... 4
4. Ductus seminalis with a large sclerotized ring, connected with short broad tube ..... *strictella*  
    Ductus seminalis with a small sclerotized ring, connected with long narrow tube ..... *fasciella*
5. Corpus bursae, without a series of heavily sclerotized ridges originating from ductus bursae ..... *ustalella*  
    Corpus bursae with a series of heavily sclerotized ridges originating from ductus bursae ..... 6
6. Caudal margin of 8th tergum rather flat; ductus seminalis connected with heavily sclerotized ring at base, with a short duct ..... *tostella*  
    Caudal margin of 8th tergum produced distally; ductus seminalis not connected with ring like above, with a long duct ..... *quercicola*
7. Corpus bursae with numerous inwardly directed spicules on inner wall throughout ..... *cuspsis*  
    Corpus bursae with a small patch of inwardly directed spicules or none ..... 8
8. Distal margin of lamella antevaginalis heavily dentate or with heavily sclerotized lobes laterally ..... 9  
    Distal margin of lamella antevaginalis lacking denticulation or sclerotized lobes ..... 10
9. Lamella antevaginalis with heavily sclerotized lobes laterally; apophyses anteriores very short ..... *litoxylla*  
    Lamella antevaginalis with strong denticulation along caudal margin; apophyses anteriores longer than 1/2 length of apophyses posteriores ..... *polystigma*
10. Apophyses anteriores longer than 1/2 length of apophyses posteriores ..... *fareasta*  
    Apophyses anteriores usually shorter than 1/3 length of apophyses posteriores ..... 11
11. Dorsodistal free plate beyond 8th segment well developed ..... *sparsella*  
    Lacking dorsodistal free plate beyond 8th segment ..... 12
12. Ductus seminalis connected with heavily sclerotized ring at base ..... 13  
    Ductus seminalis without sclerotized ring at base ..... 15
13. Corpus bursae membranous ..... *harmonias*  
    Corpus bursae partly with a patch of spicules ..... 14
14. Antrum broadly sclerotized ..... *picrocarpa*  
    Antrum relatively narrow ..... *horoglypta*
15. Ductus seminalis arising from corpus bursae ..... *lespedezae*  
    Ductus seminalis arising from ductus bursae ..... 16
16. Signum presents ..... *mitteri*  
    Signum absent ..... *rasilella*

***Dichomeris lespedezae* Park sp. nov. (Fig. 1, Pl. II-15)**

Forewing length, 6.5-7.0 mm. Head pale brownish gray, with light-orange scales laterodistally. Tegula light orange, suffused with dark-fuscous scales anteriorly. Thorax brownish gray, margined with light scales laterally; a pair of well-developed hairpencils arising from mesothoracic anepisternum well developed. Antenna without notch. Ocellus present. Second segment of labial palpus expanded anteriorly with scaletuft ventrally and dorsally, rather trapezoidal, grayish brown on outer surface, yellowish white medially on inner surface, apex with white-tipped scales along anterior margin; 3rd segment longer than 2nd. Forewing elongate, slightly dilated distally; anterior margin gently arched



**Fig. 1.** Genitalia of *Dichomeris lespedezae* Park, sp. nov.: a), male genitalia (CIS-1781, Mt. Halla), holotype; b), aedeagus; c), female genitalia (CIS-4023, Pyungchang), paratype. Abbreviation of morphological terms: Ab- accessory bursa, Ae- aedeagus, An- antrum, Apa- apophyses anteriores, App- apophyses posteriores, Cb- corpus bursae, Cn- conutus, Cu- culcitula, Db- ductus bursae, De- ductus ejaculatorius simplex, Ds- ductus seminalis, Gn- gnathos, Lb- ventral free lobe, Ob- ostium bursae, Pa- papillae anales, Sc- saccal region, Sci- sclerotized internal lobe, Scl- sclerotized lobe from zone, Scr- sclerotized ring, Se- sicae, Sg- signum, Sp- spicule, Tg- tegumen, Un- uncus, VI- valva, Vm- vinculum, Vs- vesica, Zn- zone of aedeagus.

beyond 3/4 length; apex rather obtuse; ground color light orange, dark-fuscos fascia along anterior margin at basal 1/3 and followed by 3-4 dark-fuscos oblique strigulae; subbasal fascia arising from 1/5 of posterior margin and obliquely extending to anterior part of median fascia; median fascia well developed, widest at middle; postmedian fascia broad, arising from preapical patch at 3/4 length of anterior margin; subterminal fascia along termen; veins  $R_4$  and  $R_5$  stalked for about 3/4,  $R_3$  approximate to  $R_{4+5}$  at base. Hindwing gray, darker toward distal part; termen slightly sinuate; cubital pecten present; veins  $R_s$  and  $M_1$  separated; discal cell weakly closed. Ventral surface of fore- and middle legs grayish brown; hindtibia shining yellowish white on upper half of outer surface, fuscous on ventral half, with hairlike scales above.

**Genitalia.** Male: Uncus relatively short, with round distal margin. Gnathos small and short; culcitula rather small, distal margin strongly produced medially. Valva greatly exceeding apex of uncus; saccus extending to 4/5 length of valva; ventral free lobe digitate, slightly dilated distally. Vinculum almost equal to length of tegumen plus uncus, narrow, with strong break in saccal region; no distinct lateral lobes, with slightly expanded protrusion, near basal 1/4. Sicae slightly asymmetrical, stout, joined for very short distance and then separated in U-shape; left lobe slightly longer than the right, with a triangular projection ventrolaterally near apex, apex obtuse; left one without a large projection, apex acute. Aedeagus long, about equal to the total length of genitalia, narrowed toward base; lateral

lobes composed of two slender ones, which are similar in length to each other, not reaching apex of aedeagus, right one free; a heavily sclerotized platelike lobe arising from the zone; distal 3/4 of aedeagus beyond zone almost membranous; cornutus absent. Female: Eighth tergum sclerotized distally, with almost flat caudal margin. Apophyses anteriores rather long, about 1/3 length of apophyses posteriores. Antrum very wide with broad sclerites along lateral sides. Ductus bursae scarcely defined from corpus bursae, weakly sclerotized on dorsodistal wall, with heavily sclerotized ridges on ventral surface, expanded anteriorly forming an ovate membranous bursae. Corpus bursae round; signum consisting of two oval plates bearing numerous short spines around margin. Accessory bursa arising from area of signum; ductus seminalis from the right corner of the expanded bursa.

**Type.** Holotype: ♂, Mt. Halla-san, Jeju Province, Korea 5. VII. 1986 (K. T. Park), gen. prep. CIS-1781/Park. Paratypes: 1 ♂, 2 ♀, Pyungchang, Gangweon Province, Korea, 31. VII. 1991 (K. T. Park), gen. prep. CIS-4033/Park (female); 1 ♂, 24. VI. 1960, Sakai, Osaka, Japan (M. Okada), reared from *Lespedeza* sp. The holotype and paratypes are deposited in the CIS, Korea, and two paratypes (1 ♂, 1 ♀) from Japan are deposited in the USNM.

**Distribution.** Korea (Central, Jeju), Japan (Honshu).

**Host.** *Lespedeza* sp. (Fagaceae).

**Diagnosis.** This species has been consistently misidentified as *harmonias* Meyrick by previous authors (Issiki, 1957 *et al.*), because they appear closely similar. *D. lespedezae* can be recognized by the following characters: 2nd segment of labial palpus with rather trapezoidal scaletuft directed anteriorly; forewing less elongate than that of *harmonias*; ground color of forewing light orange whereas brownish orange in *harmonias*; and postmedian fascia of forewing broad, while narrowed and incurved in *harmonias*; More distinct separable characters are found in the structure of the male and female genitalia. Adults occur in June and July.

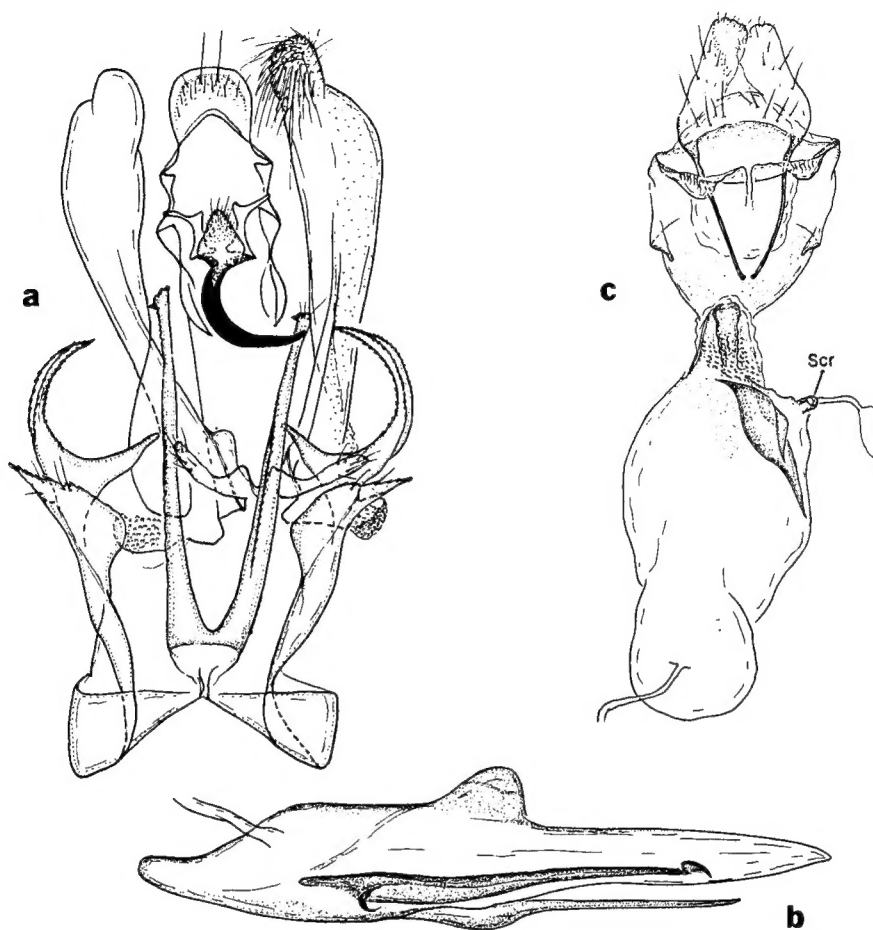
### ***Dichomeris harmonias* Meyrick (Fig. 2, Pl. II-17)**

*Dichomeris harmonias* Meyrick, 1922, Exot. Microl., 2: 504.

**Lectotype:** ♂, forewing length 6.2 mm, present designation, bears the following labels: 1. "Type", 2. "China", 3. "3266, Wlsm-1898" 4. "Ypsolophus=3267, named by Wlsm", 5. "Genitalia Slide by KTP, ♂, RWH-5169, 6. LECTOTYPE *Dichomeris harmonias* Meyrick, By K. T. Park".

This species was originally described from Shanghai, S. China, based on two specimens (without indication of sex). Its type specimens are deposited in the Joannis collection, Museum National d'Histoire Naturelle (MNHN), Paris, and I herein designated a male of them as lectotype. It is an uncommon species in Korea, with forewing length of 6.0-8.0 mm.

**Genitalia.** Male and female genitalia are illustrated for the first time after the species was described. Male: Uncus short, broad. Gnathos strongly bent before middle; culcitula cone-shape, densely spiculate. Valva slightly exceeding apex of uncus; ventral free lobe short. Vinculum broad, bifurcated at base, with a pair of strongly incurved arms which finely serrated along margin; lateral lobes arising beyond middle, broad at base, serrated on distal margin; saccal region with a strong break. Sicae slender, almost symmetrical, right lobe slightly shorter; joined for short distance, mesial margin in V-shape basally; lobes finely serrated along ventrolateral margin, with a triangular projection near apex. Aedeagus rather slender, basal area weakly sclerotized with narrowed base; lateral lobe weak, free, extending about 3/4 length of aedeagus; with a triangular developed protrusion beyond zone. Female: Eighth segment a strong break at middle and a pair of membranous wrinkled sacs at both sides ventrally. Apophyses anteriores short, not well developed. Antrum broad, with almost straight distal margin. Ductus bursae heavily wrinkled on ventral walls posteriorly. Corpus bursae ovate, membranous, with two large triangular sclerites posteriorly. Accessory bursa arising from anterior part



**Fig. 2.** Genitalia of *Dichomeris harmonias* Meyrick: a), male genitalia (lectotype, RWH-5169); b), aedeagus; c), female genitalia (USNM-87353, Nara, Japan).

of corpus bursae; ductus seminalis arising from distal corner of corpus bursae, with heavily sclerotized ring near base.

*Material examined.* 2♂, Mt. Cheonggye-san, near Suweon, Gyunggi Province, 19. VII. 1976 (K. T. Park), gen. prep. CIS-876/Park.

*Distribution.* Korea (Central), Japan (Honshu), S. China.

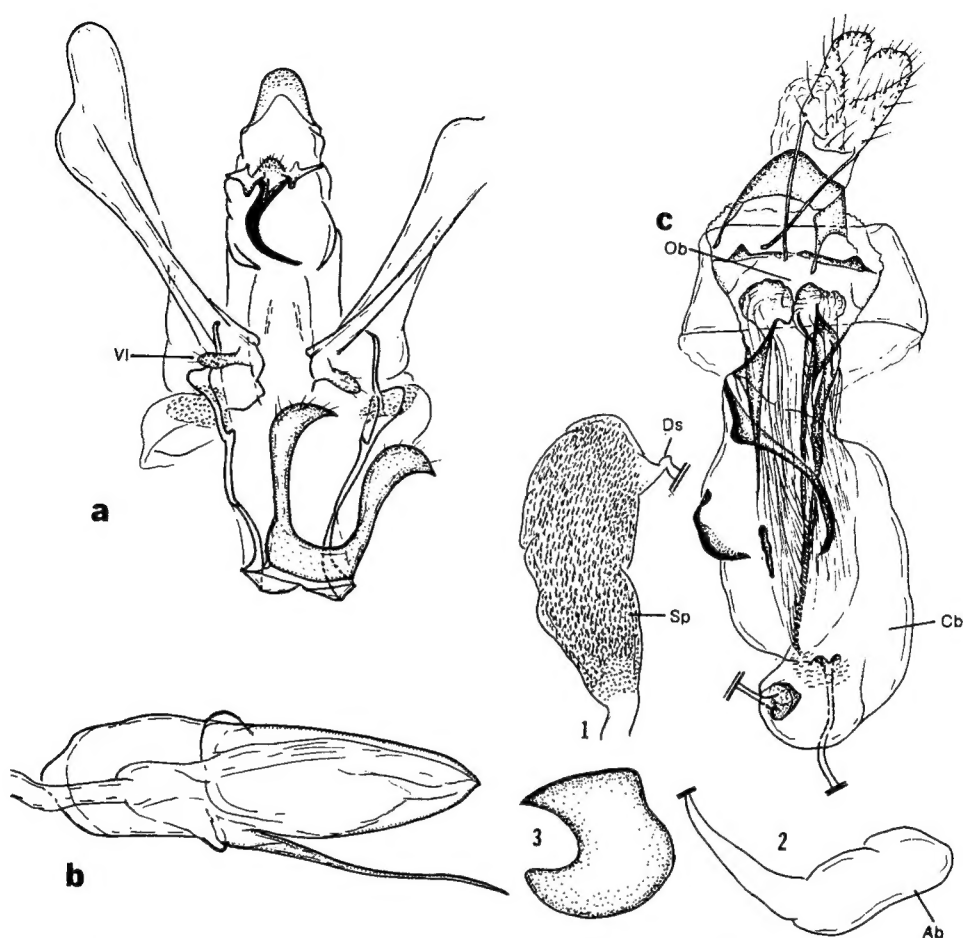
***Dichomeris quercicola* Meyrick** (Fig. 3, Pl. II-16)

*Dichomeris quercicola* Meyrick, 1921, Exot. Microl. 2: 433.

This species was described from Panjab, India, but the lectotype in BMNH lacks its abdomen. Thus there is no way to confirm its identity by the study of genital characters. Several Japanese authors (Issiki, 1957 and etc.) illustrated adults of *quercicola* based on Japanese specimens. I compared Korean as well as Japanese material with the type specimen in the BMNH only by superficial characters and tentatively follow the identification of previous authors. I have not seen additional material from the type locality. Forewing length, 6.0-6.5 mm.

*Genitalia.* Male: Uncus relatively small. Gnathos with rather small culcitula. Valva extending to





**Fig. 3.** Genitalia of *Dichomeris quercicola* Meyrick.: a), male genitalia (CIS-649, Suweon); b), aedeagus; c), female genitalia (CIS-4034, Mt. Gyeryong); 1-ductus seminalis, 2- accessory bursa, 3- magnification of plate from which ductus seminalis originates.

apex of uncus, strong protrusion near  $3/4$  length on anterior margin; ventral free lobe slender. Vinculum shorter than length of tegumen plus uncus, with small knob-shaped lateral expansions basally. Sicae symmetrical, joined for short distance, far from each other at base, about  $2/5$  length of valva, with triangularly pointed terminal end, sparsely haired on distal margin. Aedeagus stout, large; lateral process long, bar-shaped; basal zone about  $2/5$  length of aedeagus; lacking cornutus. Female: Distal part of 8th tergum sclerotized, caudal margin produced posteriorly. Apophyses anteriores relatively well developed, about  $1/4$  length of apophyses posteriores. Antrum widely opened distally. Ductus bursae with variously sclerotized ridges and wrinkles ventrally, not well defined with corpus bursae. Accessory bursa originating from the area of signum at anterior part of corpus bursae; ductus seminalis originating from peculiarly shaped plate at anterior end of corpus bursae, with a large secondary bursa bearing many densely spaced spicules on inner wall.

**Material examined.** 1 ♂, Suweon, Gyunggi Province, 10. IX. 1974 (Y. I. Lee), gen prep. CIS-649 /Park; 1 ♂, Suweon, 7. IX. 1982 (C. H. Ryu); 1 ♂ (abdomen missing), Mt. Cheunggye-san, near Suweon, 19. VIII. 1976 (K. T. Park); 1 ♀, Mt. Daeam-san, Gangweon Province, 10. VIII. 1985 (K.



T. Park); 1 ♂, Mt. Yaksu, near Yangyang, Gangweon Province, 9. VIII. 1989 (K. T. Park); 1 ♀, Mt. Gyeryong-san, CN, 20. VI. 1980 (K. T. Park), gen. prep. CIS- 4034/Park; 1 ♀, Mt. Weolag-san, CB, 20. VI. 1984 (S. B. Ahn), gen. prep. CIS-1460/Park; 1 ♂, Mt. Pekun-san, 19. VIII. 1992 (K. T. Park et B. K. Byun).

*Distribution.* Korea (Central, new record), Japan (Honshu), China, Russian Far East, India (Khasis).

*Hosts.* *Quercus* sp. (Fagaceae) has been known from India (Meyrick, 1921) and *Lespedeza cyrtoborysa* Miq. (Fagaceae) reported from Japan.

#### ***Dichomeris oceanis* Meyrick (Pl. I-1)**

*Dichomeris oceanis* Meyrick, 1920, Exot. Microl., 2: 306.

One of the widely distributed species in the Far East Asia and a common species in Korea, with forewing length of 8.5-11.0 mm.

*Material examined.* 1 ♂, 1 ♀, Mt. Cheunggye-san, near Suweon, Gyunggi Province, 19. VIII. 1976 (K. T. Park); 1 ♀, Chuncheon, Gangweon Province, 5. VII. 1983 (K. T. Park); 1 ♂, Mt. Gyeryong-san, Chungnam Province, 2. VIII. 1989 (K. T. Park).

*Distribution.* Korea (Central), Japan (Honshu, Shikoku, Kyushu), China, Russian Far East.

#### ***Dichomeris ustalella* (Fabricius) (Pl. I-2)**

*Tinea ustalella* Fabricius, 1795, Ent. Syst., 3 (2): 307.

*Dichomeris ustalella*: Meyrick, 1928: 647.

A widely distributed species in the Palaearctic region and a large species, with forewing length of 9.0-9.5 mm.

*Material examined.* 1 ♀, Suweon, Gyunggi Province, 2. VIII. 1974 (K. T. Park), gen. prep. CIS-1260/Park; 1 ♂, Gwanglung, Gyunggi Province, 20. V. 1987 (K. T. Park); 1 ♀, Gwanglung, 27. VI. 1986 (K. T. Park et M. K. Ko), gen. prep. CIS-1776/Park; 1 ♂, Mt. Halla-san, Jeju Province, 27. V. 1987 (K. T. Park).

*Distribution.* Korea (Central), Japan (Hokkaido, Honshu, Kyushu), Russian Far East, Europe.

*Hosts.* *Corylus heterophylla* var. *thunbergii* Blume (Betulaceae) has been reported from Europe and *Quercus serrata* Thunberg (Fagaceae) has been reported from Japan (Saito, 1978).

#### ***Dichomeris tostella* Stringer**

*Dichomeris tostella* Stringer, 1930, Ann. Mag. nat. Hist., (10) 6: 415.

This species was reported for the first time from Korea by Park (1983), but no further specimens have been found in Korea.

*Distribution.* Korea (with uncertainty), Japan, Russian Far East.

#### ***Dichomeris fasciella* (Hübner) (Fig. 4, Pl. I-3)**

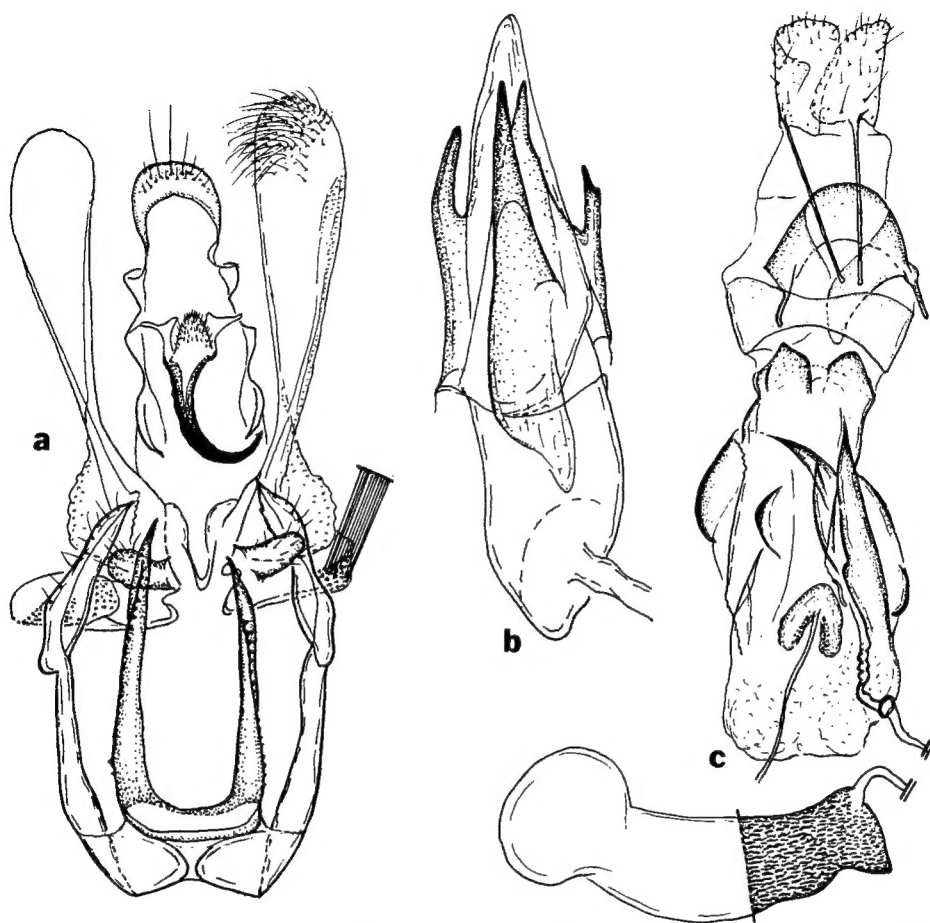
*Tinea fasciella* Hübner, 1796, Eur. Schmett., Tineen, t. 16. f. 111

*Dichomeris fasciella*: Meyrick, 1928: 647; Povolny, 1978: 138, figs. 9, 10.

*Dichomeris coreana* Matsumura, 1931, 6000 Ill. Insect Japan: 1082, fig. 2204; Park, 1986: 108, syn. nov.

Forewing length, 9.0-9.5 mm. Matsumura (1931) described *coreana* from Korea, "Coree, Seoul, 19. VIII. 1918/ E. Gallois, gen. prep. GL-no 20/Kumata." The type specimen is deposited in the Institute of Entomology, Hokkaido University, Japan. Comparison with European specimens of *fasciella* Hübner revealed no significant differences between them.

*Genitalia.* Male: Uncus relatively short. Gnathos stout; culcitula cone-shaped. Valva exceeding



**Fig. 4.** Genitalia of *Dichomeris fasciella* (Hübner: a), male genitalia; b), aedeagus; c), female genitalia (CIS-4035, Chuncheon), with ductus seminalis.

apex of uncus, dilated distally; ventral free lobes very stout. Vinculum slightly dilated at basal 1/3, with acute apex; lacking lateral lobes. Sicae asymmetrical, with acute apices, denticulate along ventro-lateral margin; separated in U-shape at base, left lobe slightly longer than right lobe. Aedeagus relatively stout, with short lateral lobes; cornutus strong, about 2/3 length of aedeagus. Female: Distal margin of 8th tergum rounded. Antrum broad, very short, about 3 times length. Ductus bursae with two sclerotized plates distally. Corpus bursae with complex of sclerotized ridges as shown in figure; signum an A-shaped plate at middle of corpus bursae. Accessory bursa arising from wall of signum; ductus seminalis from right side of anterior part of corpus bursae, with a heavily sclerotized ring at basal tube, followed by a secondary bursa with numerous spicules on inner surface.

**Material examined.** 1 ♂, Suweon, Gyunggi Province, 15. VII. 1980 (K. R. Choe); 1 ♀, Suweon, 12. IV. 1985 (S. B. Ahn); 1 ♀, Chugog, near Chuncheon, Gangweon Province, 1. VIII. 1985 (K. T. Park), gen. prep. CIS-4035/Park; 1 (?), Chugog, 30. VII. 1986 (K. T. Park); 1 ♂, Mt. Pekun-san, JN, 19. VIII. 1992 (K. T. Park); 1 ♂, Sogumgang, Gangweon Province, 8. VIII. 1988 (K. T. Park), gen. prep. CIS-1778/Park. Following 2 females are deposited in USNM: Suweon, 24. VII. 1937, emerged 7. VIII. 1937 (R.W. Burrell) from *Prunus persica*, gen. prep. USNM-2883/Clarke and 3470

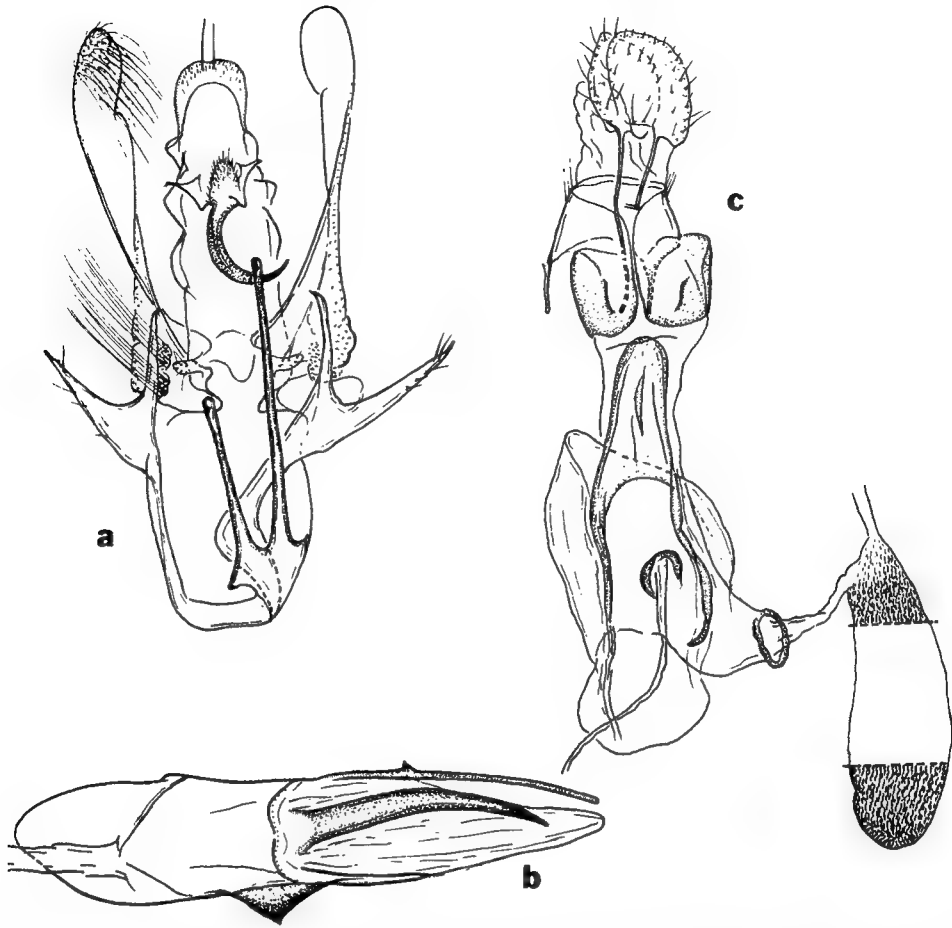


Fig. 5. Genitalia of *Dichomeris strictella* Park, sp. nov.: a). male genitalia (CIS-1772, Yangyang), holotype; b), aedeagus; c), female genitalia (CIS-4036, Chuncheon), paratype.

/Hodges.

*Distribution.* Korea (Central), Russian Far East, Southern and middle part of Europe, Asia Minor.

*Hosts.* *Prunus persica* (Linn.) (Rosaceae) is here reported for the first time from Korea (based on rearing data by R. W. Burrell, 1937).

*Diagnosis.* Comparision with the European specimen, BMNH-11418/Pierce) reveals slight differences in male genitalia: the left lateral lobe of aedeagus much shorter than that of Europeans, about 2/3 length of cornutus whereas about 3/4 in the European specimen. I do not consider this character is significant to separate species, thus I treat *coreana* Matsumura as a junior synonym of *fasciella* Hübner.

***Dichomeris strictella* Park, sp. nov.** (Fig. 5, Pl. I-4)

Forewing length, 10.0-10.5 mm. Head pale brownish gray, with yellowish-white scales above eyes. Tegula pale brownish gray, suffused with dark-fuscous scales anteriorly. A pair of long well-developed hairpencils arising from anepisternum on mesothorax. Second segment of labial palpus brown on outer surface, yellowish white on dorsal half of inner surface, apex creamy white on anterior margin;

3rd segment slender, longer than 2nd, orange white. Ocellus present. Forewing elongate, narrow, dilated distally; anterior margin slightly incurved near middle; subbasal fascia weakly developed, arising from about 1/5 length of posterior margin, oblique outwardly; median fascia usually indistinct, only middle part visible; a costal patch at 2/3 on anterior margin fuscous, large; numerous irregular transverse strigulae scattered throughout;  $R_4$  and  $R_5$  stalked for about 2/3,  $R_3$  separated from  $R_{4+5}$  at base. Hindwing gray, with acute apex; cubital pecten weakly developed;  $R_s$  and  $M_1$  stalked; cell opened. Ventral surface of fore- and mid-legs fuscous; hindtibia yellowish white on dorsal half, ventral half suffused with fuscous scales on outer surface with hairlike scales above.

**Genitalia.** Male: Uncus relatively long, with a pair of long setae and sparsely spinose on dorsal margin. Gnathos rather short. Valva extending beyond apex of uncus. Vinculum slightly shorter than the combined length of tegumen plus uncus, with heavily sclerotized lateral projections at basal 1/3. Sicae asymmetrical, slender, bar-shaped, joined for short distance; left one about 2/3 length of right one. Aedeagus moderately slender, about the same length of genital capsule; left lateral lobes extending beyond apex of dorsal lobe from zone, with a small tooth near middle; a large triangular protrusion before middle at right lateral margin; dorsal lobe with obtuse apex; cornutus horn-shaped, heavily sclerotized, about 1/2 length of aedeagus. Female: Eighth tergum sclerotized, almost straight on caudal margin, with 6-7 setae laterodistally. Apophyses anteriores relatively long, about 1/4 length of apophyses posterioris. Antrum broad, heavily sclerotized, divided into two parts, distal margin almost flat. Ductus bursae relatively long, with heavily sclerotized plate dorsally, the plate with round caudal margin and extending to anterior part of corpus bursae laterally, with several sclerotized ridges on ventral surface. Corpus bursae extended posteriorly and anteriorly, right extension with a heavily sclerotized ring connecting to ductus seminalis; signum with rounded distal margin, middle part on ventral wall of corpus bursae. Accessory bursa arising from wall of signum; ductus seminalis with dense spicules on inner surface.

**Type.** Holotype: ♂, Yangyang, Gangweon Province, Korea, 30. V. 1987 (K. T. Park), gen. prep. CIS-1772/Park. Paratypes: 1 ♀, Chuncheon, Gangweon Province, Korea, 1. V. 1989 (K. T. Park), gen. prep. CIS-4036/Park; 1 ♂, Chuncheon, Korea, 26. V. 1989 (K. T. Park). The holotype is deposited in the CIS, Korea and a paratype (♂) is in the USNM.

**Distribution.** Korea (Central).

**Diagnosis.** This species is superficially similar to the European *barbella* Dennis et Schiffermüller, but considerable differences are found as following: the new species has more elongated forewing with rather acute apex, and with more distinct dark-brown costal patch and median fascia. Other characters are in the male and female genitalia, as compared with European specimens in USNM (gen. prep. 11526, ♂ and 11527, ♀), see also Povolny, 1978: 135, figs. 1, 3, especially for the shape of sicae and processes of vinculum.

### ***Dichomeris litoxyla* Meyrick (Fig. 6, Pl. I-5)**

*Dichomeris litoxyla* Meyrick, 1937, Exot. Microl., 5: 123.

Color pattern of forewing is very similar to *fasciella* Hübner, but width of forewing broader and slightly dilated distally, a dark-brown fascia developed along termen, and discal stigmata more distinct, often with others at anterior and middle of cell, often irregularly suffused with dark-brown scales. Forewing length, 11.5-12.5 mm.

**Genitalia.** Male: No significant differences could be found between the Korean specimen and those of type specimens, gen. prep. B.M. 9114/Clarke. Uncus with numerous long hairs on ventral surface. Gnathos relatively small; culcitula also small, with rounded caudal margin. Valva long, greatly exceeding apex of uncus; sacculus extending to beyond 4/5 length of valva; ventral free lobe digitate,



**Fig. 6.** Genitalia of *Dichomeris litoxyla* Meyrick: a). male genitalia (CIS-1772, Mt. Deam-san); b), aedeagus; c), female genitalia (CIS-4037, Mt. Deam-san).

rather slender. Vinculum with bifurcated processes at base; a digitate slender arm extending inwardly; ventrolateral arm triangularly terminated, irregularly serrated on ventrodistal margin. Sicae symmetrical, joined for short distance, mesial margin U-shaped basally, denticulate along ventrolateral surface; apex rather pointed. Aedeagus with small triangular lateral processes just beyond end of basal zone, and with three similar sized, slender, heavily sclerotized inner and lateral lobes; cornutus also about equal length to the lobes, with obtuse apex. Female: Caudal margin of eighth tergum produced medially, heavily sclerotized in semicircle. Lamella antevaginalis with heavily sclerotized lateral lobes; incurved on caudal and anterior margin. Antrum weakly sclerotized on dorsal surface, with irregular distal margin; not well distinguished from corpus bursae; several longitudinal ridges and wrinkles extending to corpus bursae, especially on right ventral surface. Signum composed of minute spicules on anterior part of corpus bursae. Accessory bursa arising from wall of spiculose patch; ductus seminalis from anterior part of corpus bursae.

**Material examined.** 4♂, 3♀, Mt. Daeam-san, Gangweon Province, Korea, 26. VII. 1988 (K. T. Park), gen. prep. CIS-1777/Park (♂), CIS-4036/Park (♀).

**Distribution.** Korea (new record), S. E. Russia.

**Diagnosis.** This species was described from "Yadovdevka," but this locality could not be traced with certainty. A place with similar pronunciation is in the southern European part of Russia (53 08 N- 48 38 E).

***Dichomeris sparsella* (Christoph) (Pl. I-6)**

*Ypsolophus sparsella* Christoph, 1882, Bull. Soc. Nat. Mosc., 57(1): 29

*Dichomeris sparsella*: Hodges, 1986: 72.

Hodges (1986) transferred *sparsella* from *Gaesa* Walker to *Dichomeris*. This species is one of the largest species in the genus, with forewing length of 10.0-11.0 mm.

**Material examined.** 1 ♂, Chucheon, Gangweon Province, 7. X. 1986 (K. T. Park), gen. prep. no. CIS-1533/Park; 1 ♂, Mt. Samag-san, 3 Km W. Chuncheon, 8. V. 1989 (K. T. Park).

**Distribution.** Korea (Central), Japan, Russian Far East.

**Hosts.** *Pterocarya rhoibodia* S. et Z. and *Juglans ailanthifolia* Cart. (Juglandaceae) have been reported as hosts in Japan (Saito, 1969).

***Dichomeris fareasta* Park, sp. nov. (Fig. 7, Pl. I-7)**

Forewing length, 9.5-11.0 mm. Head and thorax grayish brown; tegula concolorous, with dark-fus-cous scales on anterior margin. Antenna with scape brownish gray dorsally, yellowish-white ventrally, alternating dark-brown and yellowish-white rings on shaft. Ocellus present. Lacks hairpencils arising from the anepisternum on mesothorax. Second segment of labial palpus expanded in triangle anteriorly; fuscous brown on outer surface, yellowish white at dorsal half on inner surface, but female usually brown, apex suffused with yellowish-white scales on anterior margin; 3rd segment very slender, much longer than 2nd, pale orange. Ventral surface of legs dark-fuscous. Forewing grayish brown, slightly dilated; anterior margin almost straight, with a black stigma at base; apex relatively obtuse; a small black spot near basal 1/4, two similar spots positioned obliquely near middle and one near end of cell, edged with white scales posteriorly; numerous black spots irregularly scattered; 2~3 dark-brown spots along anterior margin near apex and 5 distinct dark-black dots along termen;  $R_4$  and  $R_5$  stalked for 2/3 length,  $R_3$  arising separately at base; cilia concolorous, tips paler. Hindwing gray, darker posteriorly;  $R_s$  and  $M_1$  connate,  $M_3$  and  $CuA_1$  connate; cell closed; lacking cubital pecten.

**Genitalia.** Male: Uncus with rounded distal margin. Gnathos relatively weak, short; culcitula weakly convex at middle on caudal margin. Valva slightly dilated near middle, greatly exceeding apex of uncus; ventral free lobe large, distal half digitate, basal half broad. Vinculum extremely narrow; lacking lateral lobes; a pair of membranous lobes bearing setae near base. Sicae asymmetrical; left lobe strongly curved ventrally, bifurcate terminally, ventral arms longer with two long setae near apex; right one simple, digitate, with several long setae on inner margin; a sclerotized lobe complex tightly fused with sicae at base: ventral lobe very long, gently curved near basal 2/3, with two small denticles near 1/3 on ventral margin; dorsal one short, about 1/4 length of ventral one. Aedeagus about 3/4 length of genitalia; basal part narrowed; with a heavily sclerotized pointed lobe on right side; lacking cornutus. Female: Eighth tergum with a heavily sclerotized median protrusion, 5~6 long setae laterodistally, and with heavily sclerotized pointed lateral lobes. Apophyses anteriores well developed, about 3/5 length of apophyses posteriores. Lamella antevaginalis extremely broad, weakly sclerotized along caudal margin, with a large round expansion at right side anteriorly; left side extending further anteriorly to a membranous pouch with 2~3 small sclerites (number and shape of these sclerites variable within species). Ductus bursae long, not well distinguished from corpus bursae, with variable heavily sclerotized bands at posterior part ventrally. Corpus bursae membranous; lacking

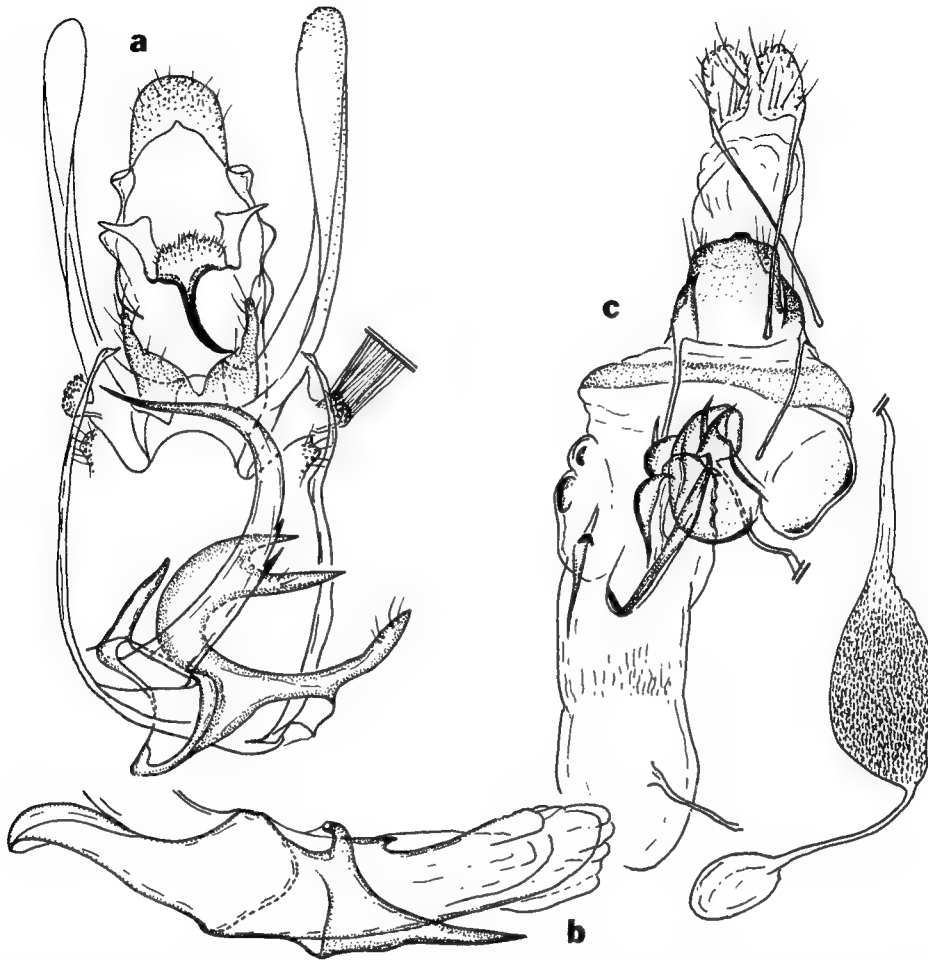


Fig. 7. Genitalia of *Dichomeris fareasta* Park, sp. nov.: a), male genitalia (CIS-1774, Chuncheon), holotype; b), aedeagus; c), female genitalia (CIS-4038, Chuncheon), with ductus seminalis, paratype.

signum. Accessory bursa arising from near middle ventrally; ductus seminalis arising from dorsal surface of ductus bursae posteriorly, with a densely spiculose appendix bursae.

*Type.* Holotype: ♂, Chuncheon, Gangweon Province, Korea, 26. IV. 1989 (K. T. Park), gen. prep. CIS-1774/Park. Paratypes: 2♀, Chuncheon, 10. IV. 1985 (K. T. Park); 2♀, Chuncheon, 7. VII. 1985 (K. T. Park); 2♀, Chuncheon, 7. VII. 1987 (K. T. Park), gen. prep. CIS-1792, CIS-4038/Park; 5♂, 1♀, same data for holotype; 4♂, 3♀, Chuncheon, 1. V. 1989 (K. T. Park); 3♀, Chuncheon, 7. V. 1990 (K. T. Park); 2♂, 1♀, Chuncheon, 6. V. 1990 (K. T. Park); 1♂, Chuncheon, 10. IV. 1990 (K. T. Park); 2♂, 1♀, Chuncheon, 21. VI. 1990 (K. T. Park); 1♂, Chuncheon, 23. IV. 1992 (K. T. Park); 1♀, Mt. Samag-san, 3 km W. Chuncheon, 8. V. 1989 (K. T. Park); 1♀, Mt. Samag-san, 19. VII. 1989 (K. T. Park); 3♀, Mt. Samag-san, 25. IX. 1989 (K. T. Park); 1♀, Mt. Seolag-san, Gangweon Province, Korea, 10. VIII. 1989 (K. T. Park); 1♂, Mt. Odae-san, Gangweon Province, Korea, 22. V. 1989 (K. T. Park). The holotype and paratypes are deposited in the CIS, Korea, and 2 paratypes of both sexes are deposited in the USNM.

*Distribution.* Korea (Central).



**Diagnosis.** This new species, *fareasta* Park, is superficially very close to *atomogypsa* Meyrick and *ventrella* (Fitch), and not easily distinguishable by the superficial characters: ground color of forewing grayish brown instead of grayish orange in *atomogypsa*, and hindwing darker than for *atomogypsa* and *ventrella*. General appearance of the male genitalia is distinct from those of *ventrella* and *atomogypsa*, especially in the shape of sicae, and aedeagus. However no major differences can be found between this new species and *atomogypsa* in the female genitalia.

***Dichomeris polystigma* Park, sp. nov.** (Fig. 10, Pl. I-8)

Forewing length, 10.2 mm. Head yellowish orange, with a row of pale gray scales longitudinally on vertex. Tegula yellowish orange, suffused with dark-fuscous scales anteriorly. Second segment of labial palpus expanded in triangular scaletuft anteriorly, grayish brown on outer surface; dorsal half yellowish white and grayish brown on ventral half on inner surface; apex suffused with white-tipped scales on anterior margin; 3rd segment slender. Ground color of forewing yellowish orange; anterior margin gently curved at 1/4 length and almost straight beyond it, with dark-fuscous scales at base; apex obtuse; two indistinct spots obliquely on subbasal fascia, two pairs of dark-brown spots at middle and end of cell and the largest spot posterad of cell at 1/3 length of wing; several irregular dark-spots along termen; veins  $R_4$  and  $R_5$  long stalked, separated beyond half length,  $R_3$  connate with  $R_{4+5}$ . Hindwing gray, darker toward termen; veins  $R_s$  and  $M_1$  stalked; discal cell closed; apex obtuse; cubital pecten developed. Male: unknown.

**Genitalia.** Female: Distal part of 8th tergum sclerotized, with rounded caudal margin. Apophyses anteriores longer than 1/3 length of apophyses posteriores. Lamella antevaginalis heavily sclerotized, almost trapezoidal, with irregularly strong denticles on distal margin, much more produced laterally; anterior margin strongly emarginated in triangular. Antrum sclerotized, broad, with irregular caudal margin, with a large lobe extending anteriorly at right side and a W-shaped, heavily sclerotized sclerite at anterior margin. Ductus bursae not well distinguished from corpus bursae; numerous ridges on ventral surface, leading to a large, membranous corpus bursae; minute spicules forming a broad oblique band on ventral surface. Accessory bursa arising from right side of junction with ductus bursae; ductus seminalis from anterior part of ductus bursae.

**Type.** Holotype: ♀, Chuncheon, 12. VI. 1989 (K. T. Park), gen. prep. CIS-4039/Park. The holotype is in the CIS, Korea.

**Distribution.** Korea (Central).

**Diagnosis.** This species is extremely close to European species *limosellus* (Schlager). Forewing ground color more yellowish orange than that of the latter, but it can easily be differentiated from *limosellus* by the female genitalia. The Korean species was compared to the European species *limosellus*, which are deposited in the USNM (gen prep. USNM 11548/Hodges and 1980/Hodges), see also Povolny, 1978: 137, figs. 5-6. Distributional range of *limosellus* extends from middle Europe, Asia Minor to Ussuri, but the record from Ussuri should be reconsidered. Although only a female was examined, the genitalia are distinct enough to separate *polypunctata* from any other related species.

***Dichomeris rasilella* (Herrich-Schäffer) (Pl. II-9)**

*Anacampsis* (?) *rasilella* Herrich-Schäffer, 1855, Schmiett. Eur., 5: 202.

*Uliaria rasilella*: Meyrick, 1925: 249.

*Dichomeris rasiella*: Hodges, 1986: 12.

One of the widely distributed species in the Palaearctic region, and a common species in Korea.

Second segment of labial palpus lacks a scaletuft ventrally and simply thickened, unlikely other members of the genus.

**Material examined.** 1 ♂, Suweon, Gyunggi Province, 2. VII. 1974 (K. T. Park); 1 ♂, Suweon, 12. VI. 1974 (K. T. Park), gen. prep. CIS-650/Park; 1 ♂, Suweon, 10. IX. 1974 (Y. I. Lee); 2 ♂, 1 ♀, Suweon, 11. VI. 1976 (K. T. Park); 2 ♂, Suweon, 22. VI. 1976 (K. T. Park); 1 ♂, 1 ♀, Suweon, 21. IX. 1976 (K. B. Uhm); 1 ♀, Suweon, 13. IX. 1982 (I. S. Kim); 1 ♂, Suweon, 8. IX. 1982 (D. J. Im); 2 ♂, Suweon, 21. VI. 1983 (S. B. Ahn); 4 ♂, 1 ♀, Mt. Chiag-san, Gangweon Province, 23. VI. 1977 (Y. Y. Ha); 1 ♂, Chuncheon, Gangweon Province, 12. VI. 1989 (K. T. Park); 1 ♀, Pyungchang, Gangweon Province, 31. VII. 1991 (K. T. Park); 5 ♀, Mt. Gyeryong-san, Chungnam Province, 20. VI. 1980 (K. T. Park).

**Distribution.** Korea (Central), Japan (Honshu, Kyushu), China, Taiwan, Russian Far-East, Europe.

**Hosts.** *Artemisia princeps* var. *orientalis* (Pampan) Hara (Asteraceae) has been reported from Japan.

**Remarks.** Since *rasilella* Herrich-Schäffer was described, it has been assigned to various genera, including *Brachmia* (Staudinger & Rebel, 1902), *Uliaria* Dumont (1920), *Gomphocrates* (Caradja, 1931) and *Dichomeris* (Hodges, 1986).

### ***Dichomeris horoglypta* Meyrick (Fig. 7, Pl. II-10)**

*Dichomeris horoglypta* Meyrick, 1932, Exot. Mocrol., 4: 202.

This species was originally described from Japan, based on a male specimen. Second segment of labial palpus rather rectangular, dark-fuscous; 3rd slender, longer than 2nd, upturned above head. Ground color of forewing ochreous, dark-fuscous streaks along anterior margin, with dark-fuscous costal patch near 3/4 length; a broad, dark-fuscous fascia along dorsum in S-shape, two short blackish parallel streaks longitudinally; apex acute, termen faintly oblique. Forewing length, 6.0-6.3 mm. Only females have been collected in Korea.

**Genitalia.** Female: Apophyses anteriores rather long, about 1/3 length of apophyses posteriores. Ductus bursae narrow, rather well defined, sclerotized on dorsolateral walls. Corpus bursae large, ovate, membranous, with numerous weak spicules on ventral surface and long sclerotized ridges on left lateral wall; signum set with numerous spicules. Accessory bursa arising from wall on signa at anterior 1/4 ventrally; ductus seminalis from near middle of ductus bursae, with a heavily sclerotized ring near base.

**Material examined.** 1 ♀, Mt. Jiri-san, 19. VII. 1981 (K. T. Park); 1 ♀, Mt. Pekun-san, 19. VIII. 1992 (K. T. Park); 1 ♀, Mt. Halla-san, JJ, 5. VIII. 1986 (K. T. Park), gen. prep. CIS-1780/Park.

**Distribution.** Korea (Central, new record), Japan (Honshu, Shikoku).

### ***Dichomeris mitteri* Park, sp. nov. (Fig. 8, Pl. II-11)**

Forewing length, 6.5-6.7 mm. Head and thorax grayish orange. more grayish on vertex; frons appressed with light-orange shiny scales. Tegula brownish gray in anterior half, grayish orange in posterior half. Second segment of labial palpus expanded in rectangle anteriorly; dark-brown scales on outer surface with light brown along anterior margin, pale ochreous on inner surface; 3rd segment very slender, slightly longer than 2nd, strongly upturned, dark-brown on ventral surface and grayish orange on dorsal surface, dark-brown broad band on apical 1/5 with whitish tipped apex. Forewing elongate, anterior margin almost straight, apex rather pointed; ground color yellowish ochreous, dark-brown fascia developed along anterior margin, with combination of short ochreous streaks alternately; subbasal fascia dark-fuscous, obliquely extended beyond half from near base of posterior margin;

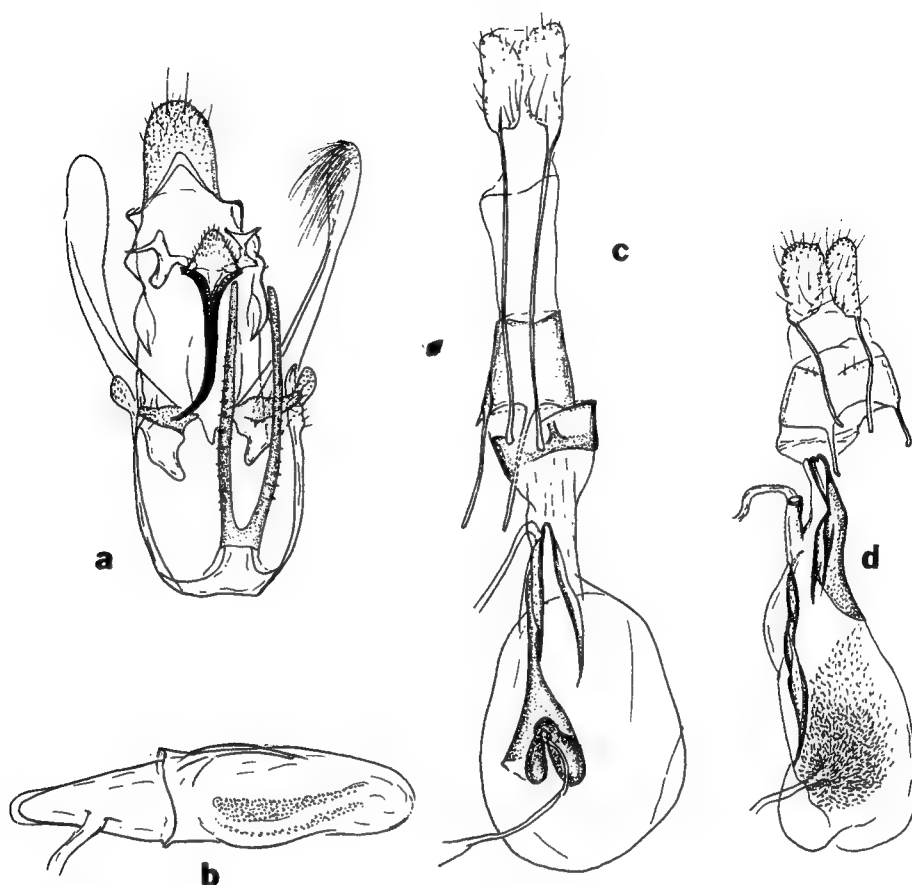
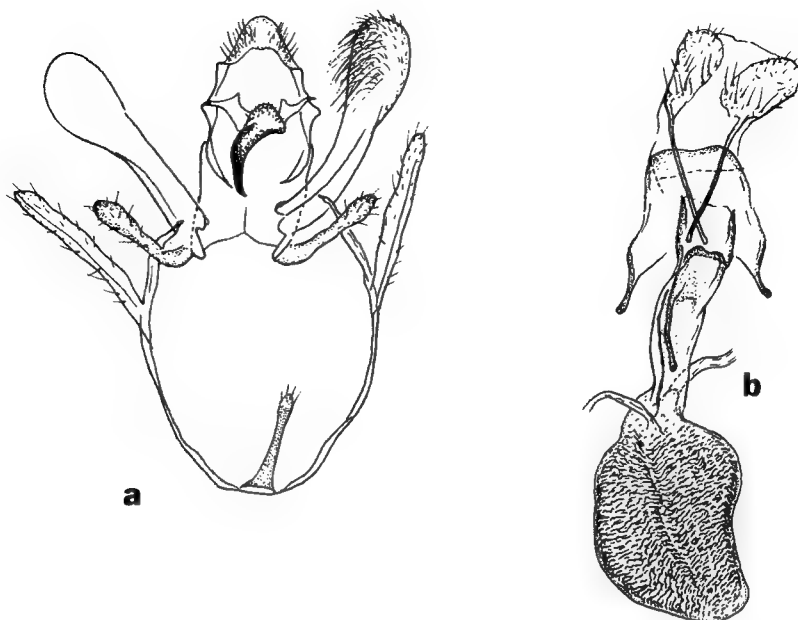


Fig. 8. Genitalia of *Dichomeris mitteri* Park, sp. nov.: a), male genitalia of *D. mitteri* (CIS-1782, Chuncheon), holotype; b), ditto, aedeagus; c), ditto, female genitalia (USNM-11583, Iwawakisan, Japan), paratype; d), female genitalia of *D. horoglypta* Meyrick.

dark-brown fascia along termen; rather dark, transverse streaks irregularly presented; discal stigmata sometimes clearly represented; cilia yellowish ochreous, slightly tinged with brown scales along termen. Hindwing gray, darker toward termen.

**Genitalia.** Male: Uncus relatively large, with a pair of long setae on dorsodistal surface medially, emarginated triangularly on anterior margin instead of round as in *ferruginosa*. Gnathos slender; culcitula cone-shaped, relatively large. Valva short, not reaching apex of uncus; ventral free lobes digitate, with very broad base. Vinculum, narrow, shorter than length of tegumen plus uncus, lacking lateral lobes, slightly dilated expansion at basal 1/4. Lateral pad bearing long scales near base of valva dorsally rather small. Sicae joined for short distance and then separated in V-shaped, almost symmetrical, but left one slightly longer, weakly serrated on ventral margin; saccal region almost straight. Aedeagus simple, basal zone narrowed toward base, lacking lateral lobes and internal lobe; with numerous minute spicules in vesica. Female: Apophyses posteriores very long, about 3/4 length of antrum plus corpus bursae, longer than three times length of anteriores. Antrum weakly sclerotized in W-shaped. Ductus bursae relatively long, about 2/3 length of corpus bursae; two heavily sclerotized ridges from near middle, running separately along lateral wall; left one expanded broadly and separa-



**Fig. 9.** Genitalia of *Dichomeris cuspis* Park, sp. nov.: a), male genitalia (CIS-1795, Gwangrung), paratype; b), female genitalia (CIS-1819, Hongcheon), holotype.

ted into two plates surrounding signa. Accessory bursa arising from near middle of the two signa; ductus seminalis arising from middle part of ductus bursae dorsally.

**Type.** Holotype: ♂, Chuncheon, Gangweon Province, Korea, 7. V. 1989 (K. T. Park), gen. prep. CIS-1782/Park; Paratypes: 1 ♂, Iwawakisan, Kinki, Honshu, Japan, 21. VII. 1949 (S. Issiki), gen. prep. USNM-11582/Hodges; 1 ♀, same locality as holotype, 10. IV. 1951 (S. Issiki); 1 ♀, same locality as holotype, 16. X. 1950 (S. Issiki); 1 ♀, Isuduti-yama, Shikoku, Kyushu, Japan, 8. VI. 1950 (S. Issiki), gen. prep. USNM-11583/Hodges. The holotype is deposited in CIS, Korea, and all paratypes are in USNM.

**Distribution.** Korea (Central), Japan (Honshu, Kyushu).

**Diagnosis.** *D. mitteri* is extremely similar to the oriental species, *ferruginosa* Meyrick, but it can be easily separated from the latter by the following characters: 2nd segment of labial palpus rather rectangular, whereas porrected with long hairlike scales on inner surface and 3rd segment not strongly upturned in *ferruginosa*. The genital characters are much closer to *horoglypta* in general appearance, but its aedeagus differs from the latter, by lacking a cornutus. It is also very close to an undescribed species from Taiwan, but *mitteri* with pale-gray hindwing instead dark gray in the latter. This species is named after Dr. Charles Mitter in the Department of Entomology, University of Maryland, USA.

***Dichomeris cuspis* Park, sp. nov.** (Fig. 9, Pl. I-12)

Forewing length, 7.2-7.7 mm. Head and thorax dark-fuscos. Ocellus very large. Second segment of labial palpus simply thickened, without scaletuft ventrally, grayish orange on outer surface, yellowish white on inner surface; 3rd segment grayish brown with white apex. No hairpencils arising from anepisternum on mesothorax. Forewing elongate, anterior margin slightly arched near 1/3 length

and sinuate beyond 3/4; apex relatively pointed; ground color uniformly dark-fuscous, shining and blue-lead metallic, with dashlike yellowish-white strigula at 3/4 on anterior margin; cilia from near 4/5 of anterior margin to termen, with a yellowish-white row of scales at basal 1/3; several dark-spots before apex and around tornus; two yellowish-white dashes run anteriorly from termen; veins  $R_4$  and  $R_5$  stalked for 1/2 length,  $R_3$  separated from base of  $R_{4+5}$ . Hindwing broad, dark-gray; veins  $R_s$  and  $M_1$  stalked beyond cell; cell closed; lacking cubital pecten; termen oblique, faintly sinuate; cilia concolorous.

**Genitalia.** Male: Uncus short, broad at base, rather triangular with rounded distal margin, anterior margin slightly convex at middle, with several strong setae along lateral margin and short setae densely distributed on ventral surface. Gnathos relatively stout. Valva approximately attaining apex of uncus, basal half almost parallel, dilated beyond middle; sacculus extending to 3/4 length of valva; ventral free lobe slender, long, about 1/4 length of valva, with clavate apex. Vinculum convex, evenly slender; lateral lobe slender, about 3/4 length of valva. Sicae small, slender, with clavate apex, about same length of ventral lobe. Aedeagus was lost during dissection. Female: Papillae anales without dense setae along distal margin. Apophyses anteriores about 1/4 length of apophyses posteriores. Distal margin of 8th tergum almost straight, evenly sclerotized. Antrum with heavily sclerotized lateral wall. Ductus bursae with dorsodistal margin emarginated in M-shape, sclerotized, with relatively heavily sclerotized ridges ventrolaterally, extending to junction with corpus bursae.

**Type.** Holotype: ♀, Hongcheon, Gangweon Province, Korea, 14. VIII. 1987 (K. T. Park), gen. prep. CIS-1819/Park. Paratype: 1 ♂, Gwanglung, Gyunggi Province, Korea, 27. VI. 1986 (K. T. Park et M. K. Ko), gen. prep. CIS-1795.

**Distribution.** Korea (endemic).

**Diagnosis.** This species is extremely close to the Indian species *enoptrias* Meyrick and Japanese species *hoplocrates* Meyrick, but it has less metallic color in the forewing than the latter. The papillae anales in the female genitalia are similar to those of *enoptrias*, by lacking short strong setae along the caudal margin. Two other undescribed species from Taiwan and Japan have strong short setae along the caudal margin. Distal margin of the sclerotized dorsal lobe in the ductus bursae separates *cuspid* Park from other related species.

### ***Dichomeris picrocarpa* (Meyrick) (Pl. II-13)**

*Carbatina picrocarpa* Meyrick, 1913, Jour. Bombay nat. Hist. Soc., 22: 182.

*Trichotaphe iothalles* Forbe, 1939: 159.

*Dichomeris picrocarpa*: Hodges, 1986: 119.

The adult was recently redescribed in detail by Hodges (1986: 119-120). Lectotype of this species was designated by Clarke (1969), based on a specimen from Khasis that was selected from syntypes from Khasis and Japan. However, as the lectotype lacks an abdomen, identification of this species was based on the Japanese specimens as suggested by Hodges (1986). Korean and Japanese specimens generally are larger, compared to those from Khasis. I examined and compared Korean specimens with a specimen from the type locality, which was previously compared with a syntype by Clarke (1948) and is preserved in USNM. Forewing length, 7.5-8.5 mm.

**Material examined.** 1 ♀, Suweon, Gyunggi Province, 7. VII. 1976 (K. T. Park); 1 ♀, Chuncheon, Gangweon Province, 26. VI. 1984 (K. T. Park); 1 ♀, Chuncheon, 13. VI. 1989 (K. T. Park et B. K. Byun); 1 ♂, Mt. Daeam-san, Gangweon Province, 28. VII. 1988 (K. T. Park); 1 ♀, Mt. Deogyu-san, near Muju, Jeonbug Province, 13. VIII. 1975 (K. T. Park), gen. prep. CIS-1254/Park. Previous record: Mt. Jiri-san (Park, 1983).

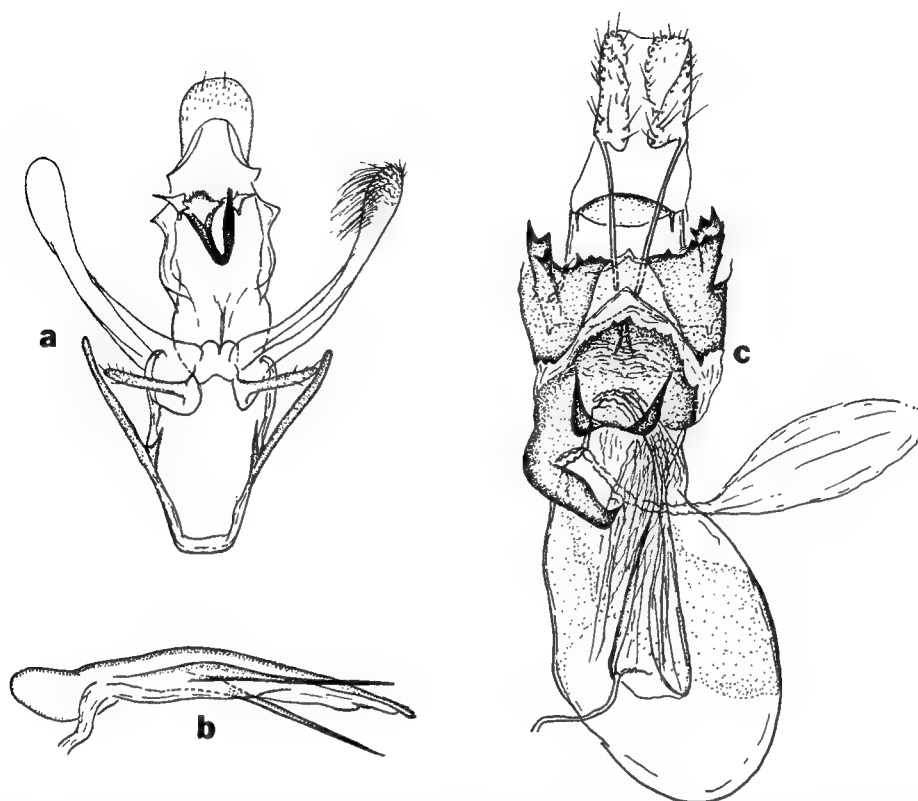


Fig. 10. Genitalia of *Dichomeris minutia* Park, sp. nov. and *Dichomeris polystigma* Park, sp. nov.: a), male genitalia of *D. minutia* (CIS-876, Suweon), holotype; b), ditto, aedeagus; c), female genitalia of *D. polystigma* (CIS-4039, Chuncheon), holotype.

*Distribution.* Korea (Central), Japan (Honshu, Shikoku, Kyushu), Russian Far East.

*Hosts.* *Prunus persica* (L.) Batsch was reported from Korea (Okamoto, 1941), and cherry, red oak and white pine has been reported from N. America (Hodges, 1986).

***Dichomeris minutia* Park, sp. nov. (Fig. 10, Pl. I-14)**

Forewing length, 3.5-4.5 mm. Head pale ochreous. Tegula ochreous, suffused with brown scales anteriorly. Thorax ochreous, without hairpencils from anepisternum on mesothorax in male. Ocellus absent. Second segment of labial palpus thickened, without scaletuft ventrally, yellowish white suffused with dark-brown scales on outer surface, yellowish white ventrally; 3rd segment stout, as long as 2nd, color also same as 2nd. Forewing rather elongate, anterior margin gently arched beyond 3/4 length; apex pointed; ground color pale ochreous, dark-brown scales scattered throughout, more densely near apex and termen; three distinct dark-brown discal spots, one near middle and the other placed obliquely beneath it under cell, the largest one at end of cell; veins  $R_4$  and  $R_5$  stalked for 2/3 length,  $R_3$  connate with  $R_{4+5}$ . Hindwing pale gray, with cubital pecten; apex sharply pointed; cilia longer toward base. Ventral surface of fore- and mid-legs dark-brown; hindtibia long, with long yellowish-white scales above. Female. Unknown.

*Genitalia.* Male: Uncus relatively large, with a pair of long setae on dorsal surface, distal margin

rounded. Gnathos slender, strongly bent, dilated at distal  $3/4$ . Valva not reaching apex of uncus, no sclerotized flap at base of anterior margin; ventral free lobes very slender, about  $1/3$  length of valva. Vinculum much shorter than length of tegumen plus uncus, narrow; lateral lobes slender, bar-shaped, arising from middle, about  $2/3$  length of vinculum, with a sharp inwardly directed process at base of lobes. Sicae absent. Aedeagus slender, long about  $4/5$  total length of genitalia, with 2 very slender lateral lobes; dorsal lobe arising from zone heavily sclerotized, with obtuse apex.

*Type.* Holotype: ♂, Suweon, Gyunggi Province, 11. VI. 1974 (K. T. Park), gen. prep. CIS-876/Park. Paratypes: same data for holotype, gen. prep. CIS-860/Park; 1 ♂, Suweon, 2. VIII. 1974 (K. T. Park); 1 ♂, Suweon, 13. VII. 1982 (C. H. Ryu); 1 ♂, Chuncheon, Gangweon Province, 21. VI. 1985 (K. T. Park), gen. prep. CIS-1419/Park; 1 ♂, 29. V. 1980 (K. T. Park); 1 ♂, Chuncheon, 15. V. 1985 (K. T. Park); 1 ♂, Mt. Samag-san, near Chuncheon, 19. VII. 1989 (K. T. Park). The holotype and paratypes are deposited in the CIS, and a paratype is in the USNM.

*Distribution.* Korea (Central; endemic).

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## 한국産 *Dichomeris*屬 (나비목, 뿔나방科)의 분류학적 정리 및 7新種 記載

朴奎澤

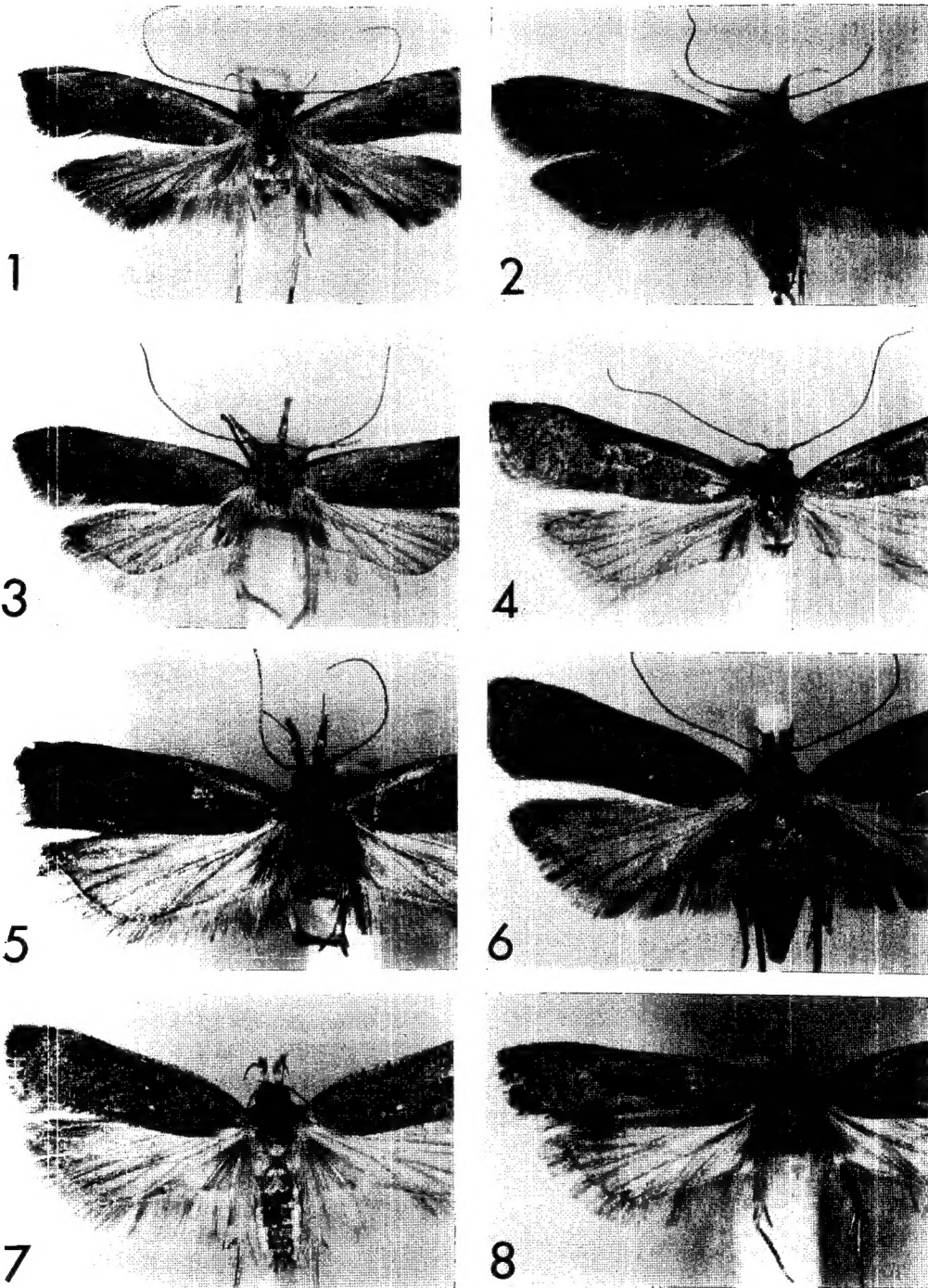
江原大學校 農生物學科, 昆蟲系統分類研究센터

한국産 *Dichomeris*속은 18종으로 정리되며 각 종의 외부형태, 분포 및 생활사에 관한 전반적인 내용을 정리, 보고한다. 이중 7종을 新種으로 기재하며, 3종은 우리나라에서 처음으로 보고되는 미기록종들이었다. 新種으로 기재되는 7종은 *lespedezae* Park, *mitteri* Park, *strictella* Park, *polystigma* Park, *fareasta* Park, *cuspidis* Park, *minutia* Park 등이며 한국미기록종은 *quercicola* Meyrick, *horoglypta* Meyrick, *litoxyla* Meyrick 등 3종이었다. 금번연구를 통해 MNHN에 소장되어 있는 모식표본을 기준으로 *D. harmonias* Meyrick의 신모식표본(lectotype)을 지정하였다. 또한 각 종에 대한 검색표를 작성하였으며 새로이 보고되는 종들의 암수생식기를 각각 도해하였다.

검색어: 분류, 나비목, 뿔나방과, *Dichomeris*, 한국

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**PLATE 1.**

1. *Dichomeris oceanis* Meyrick

2. *Dichomeris ustalella* (Fabricius)

3. *Dichomeris fasciella* (Hübner)

4. *Dichomeris strictella* Park, sp. nov.

5. *Dichomeris litoxyla* Meyrick

6. *Dichomeris sparsella* (Christoph)

7. *Dichomeris fareasta* Park, sp. nov.

8. *Dichomeris* *polystigma* Park, sp. nov.

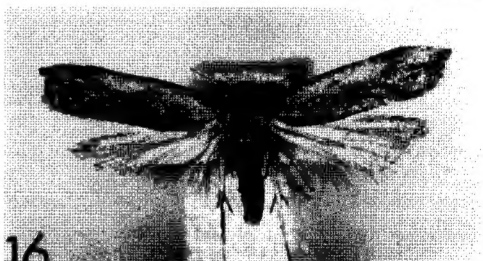
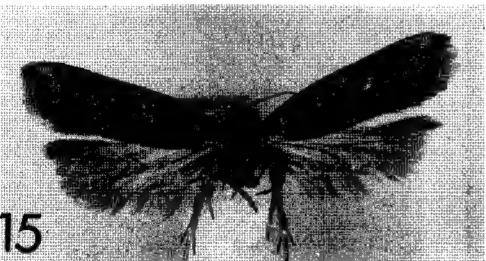
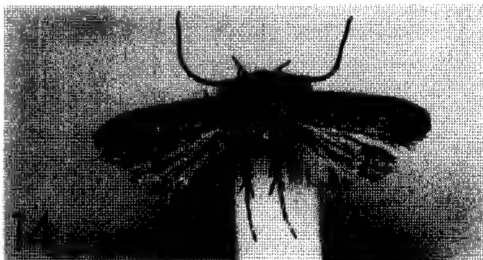
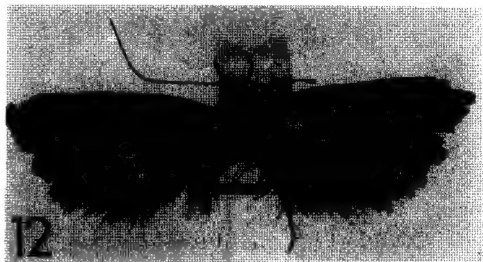
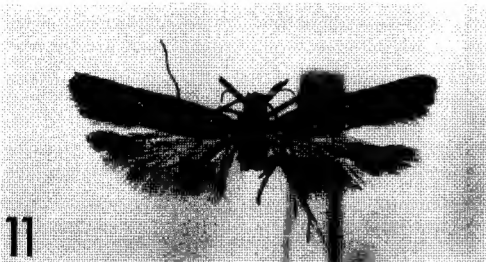
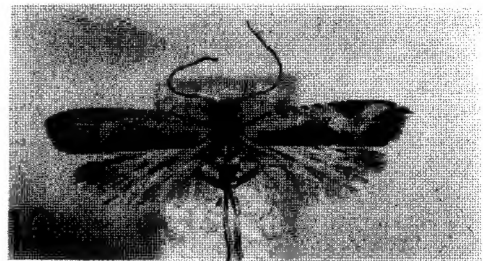
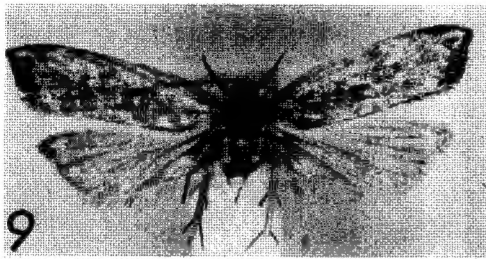


PLATE II.

9. *Dichomeris rasilella* (Herrich-Shäffer)
10. *Dichomeris horoglypta* Meyrick
11. *Dichomeris mitteri* Park, sp. nov.
12. *Dichomeris cuspis* Park, sp. nov.
13. *Dichomeris picrocarpa* (Meyrick)

14. *Dichomeris minutia* Park, sp. nov.
15. *Dichomeris lespedezae* Park, sp. nov.
16. *Dichomeris quercicola* Meyrick
17. *Dichomeris harmonias* Meyrick